

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004700**Date Inspected:** 18-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower & OBG**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**OBG Sub-Assembly Bay 1:**

The QA Inspector randomly observed 2 Magnetic Drill Operators drilling bolt holes in U-Ribs U-55 through U-58 prior to forming.

The QA Inspector randomly observed 4 ZPMC welders ID Numbers 059361/062265 and 059443/059468, utilizing the Gas Metal Arc Welding (GMAW) Process in 2G/2F Positions on Gantry 2 with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2342-U1(U-Rib)-4, to weld the U-Ribs to Deck Plate DP123-002, at Weld Joint (WJ) Numbers 001/002 and 005/006. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 368/358 amps, 30/30.7 volts (001/002) and 356/362 amps, 30.6/30.7 volts with a travel speed of 527 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Jiang Mao Fang ID 067942, utilizing the Flux Cored Arc Welding (FCAW) Process in 3F Position with ZPMC WPS WPS-B-T-2133, to weld 8mm diaphragms to the U-Ribs for Deck Plate DP342-002 at WJ's 014, 023, 032 and 041. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

### OBG Sub-Assembly Bay 2:

The QA Inspector randomly observed 4 Magnetic Drill Operators drilling bolt holes in Skin Plate Stiffeners A709 HPS 485 piece mark A571 (E) and A572 (E).

### OBG Sub-Assembly Bay 3:

The QA Inspector randomly observed ZPMC welders ID Numbers 053859 and 051786, utilizing the Shielded Metal Arc Welding (SMAW) Process in 2F Position with ZPMC WPS WPS-B-P-2112, to weld tack weld T-Ribs during fit up to Bottom Plate BP175-001 at WJ's 049/050 and 007/008 respectively. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders ID Numbers 203206 and 048920 utilizing the SMAW Process in 2F Position with ZPMC WPS WPS-B-P-2112, to weld tack weld T-Ribs during fit up to Bottom Plate BP140-001 at WJ's 011/012 and 015/016. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder ID 048923 utilizing the SMAW Process in 2F Position with ZPMC WPS WPS-B-P-2112, to weld tack weld T-Ribs during fit up to Bottom Plate BP148-001 at WJ's 049/050. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Liu Jin ID 202821, He Yumei ID 048625 and Han Hong Wen ID 200149, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld a butt splice between sections of W21 X 57 I-Beams to be cut into T-Ribs for Bottom Plates BP127/PL771A, BP100/744A and BP73/PL717B. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

### OBG Bay 4:

The QA Inspector randomly observed ZPMC welders Dai Lu ID 048659 and Hang Xiao Feng ID 054467, utilizing the SMAW Process in the 2G/2F Positions with ZPMC WPS WPS-SMAW-2G/2F-FCM-Repair, to make weld repairs to the welds attaching I-Ribs to Side Plste SP456-001 WJ's 011 through 020. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Lv Peng ID 048617, utilizing the SMAW Process in the 3G Position with ZPMC WPS WPS-B-T-4313-TC-P4 and WPS-B-T-4311-P4 in the 1G Position, to weld Run Off Tabs to the ends of WJ NSD1-SA356-2A/2B attaching piece marks p703 and SA356 of 53M (N) Tower Diaphragm SA356. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

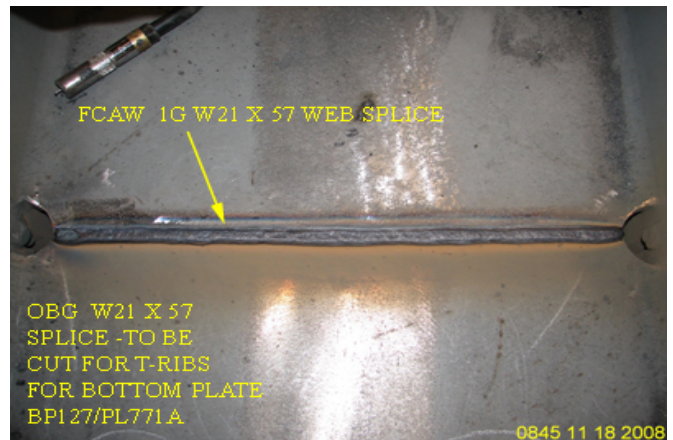
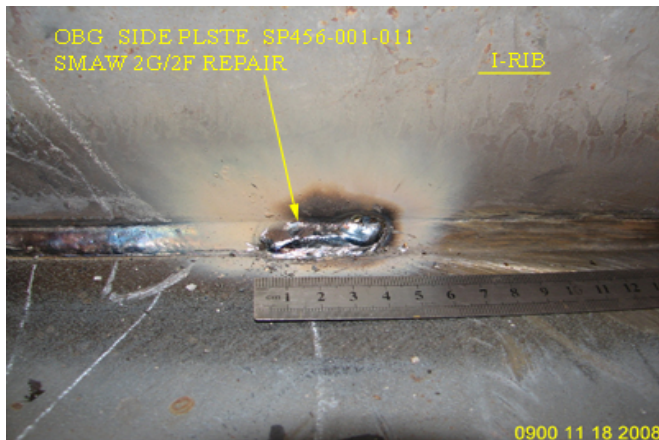
---

## WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---

The QA Inspector randomly observed ZPMC welder Wang Zhong Hua ID 053753, utilizing the SMAW Process in the 3G Position with ZPMC WPS WPS-B-T-4313-TC-P4 and WPS-B-T-4311-P4 in the 1G Position, to weld Run Off Tabs to the ends of WJ WSD1-SA381-1A/1B attaching piece marks p671 and SA381 of 53M (W) Tower Diaphragm SA381. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.



### Summary of Conversations:

As noted in the above body of this report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, 13764710411, who represents the Office of Structural Materials for your project.

---

**Inspected By:** Franco,Charlie

Quality Assurance Inspector

---

**Reviewed By:** Wright,Mark

QA Reviewer